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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/467,611	12/20/1999	GEORGE J. MIAO	INTL-0324-US	2610

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TIMOTHY N TROP  
TROP PRUNER HU & MILES  
8554 KATY FREEWAY STE 100  
HOUSTON, TX 77024

EXAMINER
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NGUYEN, DUNG X

ART UNIT	PAPER NUMBER
2631	9

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/467,611

Applicant(s)

MIAO ET AL.

Examiner

Dung X Nguyen

Art Unit

2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1 - 18 and 20 - 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 16 - 25 is/are allowed.
- 6) ☒ Claim(s) 1 - 10 and 26 - 29 is/are rejected.
- 7) ☒ Claim(s) 11 - 15 and 30 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

***Response to Arguments***

1. Applicant's arguments filed on April 30, 2004 have been fully considered but are moot to the new ground(s) of rejection.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.*

3. **Claim 1 is rejected** under 35 U.S.C. 103(a) as being unpatentable over Oh et al. (US patent # 6,279,019 B1).

Regarding claim 1, Oh et al. discloses (figure 9, column 1, line 28 – 31, column 9, lines 35 – 55):

- First digital decimation filter (61) with N bands (column 1, line 30 and column 9, lines 35 – 38);
- Second digital decimation filter (64) to reject N-1 bands (column 1, line 30 and column 9, lines 35 – 38).

Oh et al. differs from the instant claimed invention that it does not state second digital decimation filter (64) for implementing a GSM mode.

However, one of ordinary skill in the art is able to make it in GSM mode for a designed choice.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Oh et al. to provide second digital decimation filter (64) for implementing a GSM mode for a designed choice.

4. **Claim 1 is also rejected** under 35 U.S.C. 103(a) as being unpatentable over Bertrand et al. (US patent # 6,487,221 B1).

Regarding claim 1, Bertrand et al. discloses (figure 4, and abstract, column 3, line 66 to column 4, line 54):

- First digital decimation filter (40<sub>1</sub>) with N bands (abstract); and
- Second digital decimation filter (40<sub>2</sub>) to reject N-1 bands coupled to the first digital decimation filter (40<sub>1</sub>) (column 10, lines 7 – 15).

Bertrand et al. differs from the instant claimed invention that it does not state second digital decimation filter (40<sub>2</sub>) for implementing a GSM mode.

However, one of ordinary skill in the art is able to make it in GSM mode for a designed choice.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Bertrand et al. to provide second digital decimation filter (40<sub>2</sub>) for implementing a GSM mode for a designed choice.

5. **Claims 2 – 3 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Oh et al. (US patent # 6,279,019 B1), in view of Treadaway et al. (US patent # 6,480,477 B1).

Regarding claim 2, as followed by the limitations analyzed in claim 1, Oh et al. differs from the instant claimed invention that it does not state the first digital decimation filter (40<sub>1</sub>) is a square-root-raised-cosine filter for a Wideband Code Division Multiple Access mode.

However, Treadaway et al. discloses of the using a matched filter square-root-raised-cosine (column 18, line 17).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Treadaway et al. into Oh et al. to provide first digital decimation filter (40<sub>1</sub>) being the square-root-raised-cosine filter for a Wideband Code Division Multiple Access mode to improve the communication system.

Regarding claim 3, as followed by the limitations analyzed in claim 2, Oh et al. further discloses that its invention is used by the programmability of the digital signal processing software (column 1, lines 20 – 23).

Regarding claim 4, as followed by the limitations analyzed in claim 2, Treadaway et al. further inherently discloses (figure 1) a controller (102) that selectively programs a filter to provide an output to identical terminal 100 or 100' (column 6, lines 9 - 35).

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Oh et al and Treadaway et al. to further provide a controller that selectively programs the filter to provide an output for a wideband CDMA mode to improve the communication system.

Regarding claim 5, as followed by the limitations analyzed in claim 4, from the preceding analyzed information, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a the first digital decimation filter coupled to a programmable controller to cause the first digital decimation filter to output N bands for a GSM mode.

Regarding claim 6, as followed by the limitations analyzed in claim 4, from the preceding analyzed information, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a the first digital decimation filter and the second decimation filter provide an output for a transceiver receiving a GSM communication signal, and the first digital decimation filter provides an output when the system is receiving a wideband CDMA signal without effort.

Regarding claims 7 and 8, respectively, as followed by the limitations analyzed in claim 6, from the preceding analyzed information, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to provide a the first digital decimation filter is programmable to have any specific tap(s).

6. **Claims 9 and 10 are rejected** under 35 U.S.C. 103(a) as being unpatentable over Oh et al. (US patent # 6,279,019 B1), Treadaway et al. (US patent # 6,480,477 B1), further in view of Dent et al. (US patent 6,570,907 B1).

Regarding claims 9 and 10, as followed by the limitations analyzed in claim 1 and 8, respectively, Oh et al. and Treadaway et al. differ from the instant claimed invention that they do not show the memory that provides less than all of the coefficients from the first filter to the second filter.

However, Dent et al. the memory that provides less than all of the coefficients from the first filter to the second filter (column 11, lines 4 – 16).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to combine Oh et al., Treadaway et al., and Dent et al. to provide the memory that provides less than all of the coefficients from the first filter to the second filter for improving the communication system.

7. **Claim 26<sup>are</sup> is rejected** under 35 U.S.C. 103(a) as being unpatentable over Dent et al. (US patent # 6,570,907 B1).

Regarding claim 26, Dent et al. discloses (figure 2):

- First filtering stage (phase 1), from the preceding information, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to build the first filtering stage depending on whether the wideband-CDMA as recited in column 1, lines 26 – 27;

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- Second filtering stage (phase 2), from the preceding information, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to build the step of selecting an output from either a wideband CDMA as recited in column 1, lines 26 – 27 or a GSM signal as recited in column 1, lines 33 – 34, is received;
- An output from a selected location (column 5, lines 60 – 64).

Finally, from the preceding information, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to use Dent et al. to build a system that satisfy the requirements of the instant claimed invention for improving the communication system.

Regarding claim 27, as followed by the limitations analyzed in claim 26, Dent et al. further discloses the storing instructions that cause a processor-based system to control a multiplexer to select the output of the first or second filtering stage as the output from the filtering stages (column 11, lines 4 – 8, column 5, lines 60 – 64).

Regarding claim 28, as followed by the limitations analyzed in claim 26, Dent et al. further discloses the storing instructions that cause a processor-based system to provide less than all of the coefficients from the first stage to the second stage when a GSM signal is received (column 11, lines 4 – 8).

Regarding claim 29, as followed by the limitations analyzed in claim 28, Dent et al. differs from the instant claimed invention that it does not show the step of storing instructions that caused a processor-based system to set the number of taps in the first filtering at twenty-one when a wideband CDMA signal is received and fifty-three when a GSM signal is received.

However, setting the number of taps at a specific number when different signals being received is on hand of one of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to implement Dent et al. to show the step of storing instructions that caused a processor-based system to set the number of taps in the first filtering at twenty-one when a wideband CDMA signal is received and fifty-three when a GSM signal is received for a designed choice.

***Allowable Subject Matter***

7. **Claims 11 – 15 and 30 are objected** to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. **Claims 16 – 25 are allowed.** The following is a statement of reasons for the indication of allowable subject matter:

Regarding to the claimed invention, the prior art of record fails to show or render obvious of a dual mode filter for mobile communication substantially implementing two disparate cellular systems such as GSM and W-CDMA. The same transceiver may be utilized to selectively receive and transmit in either of the two systems. Two cascaded digital decimation filters may substitute for one narrow band digital decimation filter in conventional designs. One of the filters is a multi-band digital decimation filter with N bands and the other of the filters is also the decimation filter used to reject the N-1 bands of the system, wherein the coefficients of both of the first and second filters to perform the step of selectively being set to implement either GSM or W-CDMA.

***Contact Information***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dung X. Nguyen whose telephone number is (703) 305-4892. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:30 PM.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Ghayour Mohammad H. can be reached on (703) 306-3034. The fax phone numbers for this group is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

DXN

June 26, 2004

  
JEAN B. CORRIELUS  
PRIMARY EXAMINER

7/8/04